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National Priority Chemicals Trends Report (2000-2004)

Section 4
Chemical Specific Trends Analyses for Priority Chemicals (2000−2004): Quintozene

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Quintozene

Chemical Information:

Quintozene is a white or colorless crystalline solid with a characteristic pleasant odor.

CAS Number − 82−68−8

Alternate Names − nitroPentachlorobenzene, quintobenzene, pentachloronitrobenzene

General Uses − Quintozene is used as a fungicide for seed treatment, soil application, and as a slime inhibitor in industrial waters. It is also used to prevent the growth of fungi on grass, lawn flowers, ornamental crops, shrubs and in gardens.

Potential Hazards − Quintozene is harmful if swallowed, inhaled, or absorbed through the skin. It may cause irritation. In addition, this chemical emits toxic fumes of chlorine, carbon monoxide, carbon dioxide, nitrogen oxides, hydrogen chloride gas and phosgene when heated to decomposition. It also may cause potential liver toxicity (EPA Integrated Risk Information System – IRIS).

Summary Analysis:

- NATIONAL: In 2004, only three facilities reported approximately 281,000 pounds of quintozene. Compared to the quantity reported in 2000, there was a decrease of approximately 27,000 pounds or 9 percent.
- REGIONAL/ STATE: In 2004, facilities in only three of the EPA regions reported quintozene. One facility in EPA Region 9 (California) reported approximately 91 percent of the total quantity of quintozene.
- FACILITIES: Of the three facilities that reported quintozene in 2004, one facility reported approximately 91 percent of the total quantity.
- MANAGEMENT: From 2000 to 2004, facilities primarily used energy recovery to manage quintozene, including 75 percent of this chemical in 2004.
- INDUSTRY SECTOR: In 2004, only three facilities, all in SIC 2879 (Pesticides and agricultural chemicals, nec), reported quintozene. Compared to quantities reported in 2000, these facilities reported approximately 20,000 less pounds of quintozene in 2004.

National Trends:

Exhibit 4.246 shows the number of facilities that reported quintozene in 2000 to 2004 and the quantities that were managed via disposal, treatment, energy recovery, and recycling. In 2004, only three facilities reported approximately 281,000 pounds of quintozene. Compared to the quantity reported in 2000, there was a decrease of approximately 27,000 pounds or 9 percent. Compared to the quantity reported in 2003, the quantity increased significantly, by approximately 45,000 pounds, or by approximately 19 percent.

For 2000−2004, facilities primarily used energy recovery to manage quintozene, including 75 percent of this chemical in 2004. In 2004, facilities treated approximately 25 percent of the quintozene – an increase of 58,000 pounds, or approximately 499 percent compared to the quantity treated in 2003. Only relatively small quantities of quintozene were disposed of since 2000; none was disposed of in 2004. Since 2000, relatively small quantities of quintozene were recycled; in 2003 and 2004, only approximately 100 pounds were recycled.

Exhibit 4.246. National Management Method Trends for Quintozene, 2000−2004

Management Methods for Quintozene and Number of Facilities	2000	2001	2002	2003	2004	Percent Change (2000−2004)	Management Method −− Percent of Quantity of This PC (2004)
Number of Facilities	6	7	4	5	3	−50.0%	-
Disposal Quantity (pounds)	4,999	6,025	21	693	0	−100.0%	0.0%
Energy Recovery Quantity (pounds)	296,406	205,972	195,927	223,510	211,477	−28.7%	75.3%
Treatment Quantity (pounds)	6,361	3,125	9,159	11,613	69,510	992.8%	24.7%
Priority Chemical Quantity (pounds)	307,766	215,122	205,107	235,816	280,987	−8.7%	-
Recycling Quantity (pounds)*	2,299	2,365	184	105	110	−95.2%	-

*Note: Waste minimization is the emphasis of this Report. As such, we primarily focus on quantities of PCs that are managed via onsite/offsite disposal, treatment, or energy recovery because we believe these PC quantities offer the greatest opportunities for waste minimization. Because recycled quantities of PCs are already directed to their best uses, they are considered separate and distinct from the quantities of PCs not recycled. Throughout this section, the recycled quantity is presented to provide some perspective regarding the quantity of this PC already recycled compared to the quantities that are managed via disposal, treatment, and energy recovery and thus potentially available for waste minimization.

Exhibit 4.247 shows the number of facilities that reported quintozene within various quantity ranges in 2004. Of the three facilities that reported quintozene in 2004, one facility reported approximately 91 percent of the total quantity.

Exhibit 4.247. Distribution of Quantities by Facilities Reporting Quintozene, 2004

Quintozene (280,987 pounds)		
Quantity Reported	Number of Facilities Reporting This Quantity (2004)	Percent of Total Quantity of This PC (2004)
up to 10 pounds	0	0.0%
11 − 100 pounds	0	0.0%
101 − 1,000 pounds	1	0.2%
1,001 − 10,000 pounds	0	0.0%
10,001 − 100,000 pounds	1	9.1%
100,001 − 1 million pounds	1	90.7%
> 1 million pounds	0	0.0%

EPA Regional Trends:

Exhibit 4.248 shows the quantity of quintozene reported by facilities in five EPA regions in 2000 to 2004. In 2004, facilities in only three of the EPA regions reported quintozene. One facility in EPA Region 9 reported approximately 91 percent of the total quantity of quintozene in 2004.

Some additional observations concerning increases and decreases include:

- Compared to quantities reported in 2000, there was a large increase of approximately 25,000 pounds in Region 4 in 2004. One facility accounted for this increase; this facility reported a steadily increasing quantity of quintozene since 2000. The facility attributes the much larger quantity in 2004 to a newly formulated product; however, it anticipated decreased production of the new product in 2005.
- Since 2000, a facility in EPA Region 9 has consistently reported most of the quintozene, generated in the production of a technical grade pesticide. In 2004 this facility reported approximately 41,000 fewer pounds of quintozene compared to the quantity reported in 2000 but reported an increase of approximately 27,000 pounds compared to the 2003 quantity. Since 2000, this facility's reported quantities of quintozene reflect both increases and decreases in production.

Exhibit 4.248. Regional Quantity of Quintozene, 2000−2004

EPA Region	2000 (pounds)	2001 (pounds)	2002 (pounds)	2003 (pounds)	2004 (pounds)	Percent Change in Quantity (2000−2004)	Percent of Total Quantity of This PC (2004)
4	751	931	1,970	3,166	25,485	3293.5%	9.1%
5	7,221	5,976	0	0	0	−100.0%	0.0%
6	0	589	0	679	523	NA	0.2%
7	3,388	1,654	7,210	4,014	0	−100.0%	0.0%
9	296,406	205,972	195,927	227,957	254,979	−14.0%	90.7%
Total	**307,766**	**215,122**	**205,107**	**235,816**	**280,987**	**−8.7%**	**100.0%**

Exhibit 4.249 shows how facilities managed quintozene, by EPA region, in 2004. The Region 9 facility used offsite energy recovery for approximately 83 percent of its quintozene. The remaining 17 percent of its quintozene, along with 100 percent of the quintozene from the facilities in the other two EPA regions, was treated offsite. In 2004, these facilities reported very little recycling of quintozene.

Exhibit 4.249. Regional Management Methods for Quintozene, 2004

EPA Region	Quantity (pounds) of Quintozene (2004)	Percent of Total Quantity of Quintozene (2004)	Disposal (pounds)		Energy Recovery (pounds)		Treatment (pounds)		Recycling (pounds)	
			Onsite Disposal	Offsite Disposal	Onsite Energy Recovery	Offsite Energy Recovery	Onsite Treatment	Offsite Treatment	Onsite Recycling	Offsite Recycling
4	25,485	9.1%	0	0	0	0	0	25,485	110	0
6	523	0.2%	0	0	0	0	0	523	0	0
9	254,979	90.7%	0	0	0	211,477	0	43,502	0	0
Total	**280,987**	**100.0%**	**0**	**0**	**0**	**211,477**	**0**	**69,510**	**110**	**0**

State Trends:

Exhibit 4.250 shows the quantity of quintozene that was reported by facilities in five states, between 2000 and 2004. Some highlights include:

- One facility in California accounted for 91 percent of the total quantity of this chemical in 2004. Compared to quantities reported in 2000, this facility reported approximately 41,000 fewer pounds of quintozene in 2004. It reported an increase of approximately 27,000 pounds compared to the 2003 quantity. This facility's reported quantities of quintozene reflect both increases and decreases in production of a technical grade pesticide.
- In 2004, a facility in Georgia reported an increase of approximately 25,000 pounds, compared to quantity reported in 2000. This facility reported a steadily increasing quantity of quintozene since 2000 and attributed the increase in 2004 to a newly formulated product.
- Facilities in Ohio and Iowa no longer report quintozene.

Exhibit 4.250. State Quantity Trends for Quintozene, 2004

State	Total Quantity (pounds) of Quintozene					Change in Quantity (2000−2004)	Percent Change in Quantity (2000−2004)	Percent of Total Quantity of This PC (2004)
	2000	2001	2002	2003	2004			
CA	296,406	205,972	195,927	227,957	254,979	−41,427	−14.0%	90.7%
GA	751	931	1,970	3,166	25,485	24,734	3293.5%	9.1%
LA	0	589	0	679	523	523	NA	0.2%
IA	3,388	1,654	7,210	4,014	0	−3,388	−100.0%	0.0%
OH	7,221	5,976	0	0	0	−7,221	−100.0%	0.0%
Total	**307,766**	**215,122**	**205,107**	**235,816**	**280,987**	**−26,779**	**−8.7%**	**100.0%**

Exhibit 4.251 shows how facilities in these three states managed quintozene in 2004. The facility in California used offsite energy recovery for approximately 83 percent of its quintozene. The remaining 17 percent of its quintozene, along with 100 percent of the quintozene from the two facilities in Georgia and Louisiana, was treated offsite. In 2004, these facilities reported very little recycling of quintozene.

Exhibit 4.251. State Management Methods for Quintozene, 2004

State	Total Quantity of Quintozene (2004)	Onsite Disposal (pounds)	Offsite Disposal (pounds)	Onsite Energy Recovery (pounds)	Offsite Energy Recovery (pounds)	Onsite Treatment (pounds)	Offsite Treatment (pounds)	Onsite Recycling (pounds)	Offsite Recycling (pounds)
CA	254,979	0	0	0	211,477	0	43,502	0	0
GA	25,485	0	0	0	0	0	25,485	110	0
LA	523	0	0	0	0	0	523	0	0
Total	**280,987**	**0**	**0**	**0**	**211,477**	**0**	**69,510**	**110**	**0**

Industry Sector (SIC) Trends:

Exhibit 4.252 shows the quantities of quintozene reported by facilities in two industry sectors in 2000−2004. In 2004, only three facilities, all in SIC 2879 (Pesticides and agricultural chemicals, nec), reported quintozene. Compared to quantities reported in 2000, facilities in SIC 2879 reported approximately 20,000 less pounds of quintozene in 2004. In 2004, SIC 2879 facilities reported an increase of approximately 45,000 pounds. One facility in SIC 2879 accounted for 91 percent of the total quantity of quintozene in 2004. This facility's reported quantities of quintozene reflect both increases and decreases in production of a technical grade pesticide.

In 2004, another SIC 2879 facility, located in Georgia, reported an increase of approximately 25,000 pounds, compared to quantity reported in 2000. This facility reported a steadily increasing quantity of quintozene since 2000 and attributes the large increase in 2004 to a newly formulated product.

Exhibit 4.253 shows how facilities in SIC 2879 (Pesticides and agricultural chemicals, nec) managed quintozene in 2004. One of the three facilities primarily used offsite energy recovery. The remaining quantity of quintozene from this facility as well as from the other two facilities in this industry sector was treated offsite. None of the quintozene was land disposed in 2004. One of the facilities recycled 110 pounds of quintozene in 2004.

Exhibit 4.252. Industry Sectors Containing Quintozene, 2004

Primary SIC	SIC Description	Number of Facilities That Reported Quintozene (2004)	2000 (pounds)	2001 (pounds)	2002 (pounds)	2003 (pounds)	2004 (pounds)	Change in Quantity (2000−2004)	Percent of Total Quantity of This PC (2004)
2875	Fertilizers, mixing only	0	7,221	5,976	0	0	0	−7,221	0.0%
2879	Pesticides and agricultural chemicals, nec	3	300,545	209,146	205,107	235,816	280,987	−19,558	100.0%
Total		**3**	**307,766**	**215,122**	**205,107**	**235,816**	**280,987**	**−26,779**	**100.0%**

Exhibit 4.253. SIC Management Methods of Quintozene, 2004

Primary SIC	SIC Description	Total Quantity of Quintozene (2004)	Percent of Total Quantity (2004)	Disposal (pounds)		Energy Recovery (pounds)		Treatment (pounds)		Recycling (pounds)	
				Onsite Disposal	Offsite Disposal	Onsite Energy Recovery	Offsite Energy Recovery	Onsite Treatment	Offsite Treatment	Onsite Recycling	Offsite Recycling
2879	Pesticides and agricultural chemicals, nec	280,987	100.0%	0	0	0	211,477	0	69,510	110	0
Total		**280,987**	**100.0%**	**0**	**0**	**0**	**211,477**	**0**	**69,510**	**110**	**0**